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ABSTRACT

This annual report details the activities of the National Action Council for Minorities in Engineering (NACME) for 1997. It contains descriptions of organizational activities pertaining to research, public policy analysis, the status of national programs at precollege and university levels, the scholarship program for engineering students from minority communities, and the dissemination of information through publications, conferences, and electronic media. The report contains a statement of financial position; statement of activities; and charts showing the following: NACME scholarship programs; fall semester freshmen enrollments in engineering from 1974-74 to 1996-97 for African Americans, Latinos, and American Indians; and Bachelor's degrees in Engineering by ethnicity and gender for academic years 1990-91 to 1996-97. (DDR)

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NACME

1997 Annual Report

Crisis & Commitment

ED 421 335

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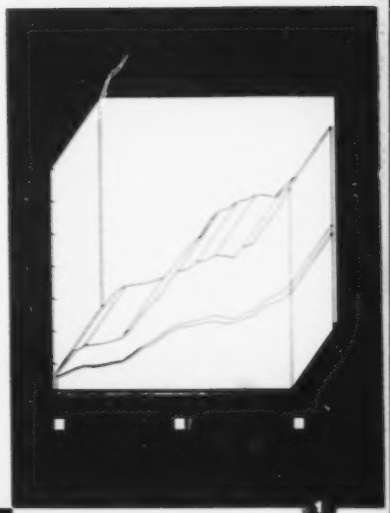
The crisis is real • While engineering employment has roared past the 2 million mark, the number of American graduates continues to slip and reliance on imported talent deepens. • Heavy drop-offs in minority enrollment – down 10 percent since 1992 – portend an end to the steady growth of minority engineering graduates, which has long bucked the national trend • The K-12 education system remains ineffective in preparing minority students for high-tech careers. • Affirmative action – an essential catalyst for diversity in engineering – is under vigorous attack at the ballot box, in the courts, in state legislatures and in the media.

For 23 years, NACME has led the national effort to increase access to careers in engineering. • Since 1980, 10 percent of all minority graduates in engineering – more than 6,700 alumni – have gone through college with NACME scholarships. • In 1996, NACME earned the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. • NACME delivers critical information about precollege mathematics courses to millions of students, parents and teachers, daily. • Annual minority graduations have increased from 1,423 at NACME's founding, to an all-time high of 6,422 in 1997.

NACME's mission is to increase the number of African Americans, Latinos and American Indians in the nation's engineering work force. A not-for-profit corporation supported by America's leading technology-intensive companies, NACME conducts research and analyzes public policy, develops and operates national programs at precollege and university levels, and provides broad dissemination of information through publications, conferences and electronic media. NACME is also the nation's largest privately funded source of scholarships for engineering students from minority communities.



ENGINEERING STRIKES BACK

Edwin J. Hess
Senior Vice President
Exxon Corporation

Across the nation, business leaders identify the education of American workers as a priority concern for the new century. The problem isn't new. Almost 25 years ago, leaders of corporate America and the higher education community responded to a crisis in the engineering work force by joining together to provide access for African Americans, Latinos and American Indians – the purpose for which NACME was established.

Today, with a quarter century of achievement behind us, I'm pleased to report that this joint venture has been a remarkable success. Through sustained commitment, ongoing research and effective programming, the number of minorities graduating with engineering degrees has increased fivefold.

Our accomplishments notwithstanding, the 21st Century approaches with a new set of challenges. The target population has grown, educational opportunity is uneven, and the reserves of talent in America's minority communities remain largely untapped. In my industry, we go to great lengths to assure that every drop of natural resource is extracted from every existing well. As a nation, we've been significantly less vigilant about developing our human resources, often neglecting the most critical strategies for plumbing the talent pool.

During my 1996-97 term as chairman, the NACME Board of Directors took a bold policy step to ensure development of a work force that can meet the nation's need. As the debate surrounding affirmative action reached new levels of intensity, we reaffirmed our commitment to equal opportunity by individually signing a board resolution and publishing it in *The Wall Street Journal*.

Backed by our Development Committee, the directors helped establish 18 new company partnerships, creating real growth in industry participation. The Investment Committee implemented strategies to improve the performance of the Corporation's portfolio. We created a new Committee on Governance to assure ongoing leadership, vision and support for NACME's mission.

Perhaps most gratifying was the NACME Scholars' Leadership Training at our annual FORUM. The opportunity to interact with our students as they explore careers at the frontiers of technology is both exciting and rewarding.

As I retire from Exxon Corporation, and from the NACME board, I leave with great expectations for NACME and the thousands of students — and hundreds of companies — that benefit from this extraordinary organization. With Nick Donofrio, IBM's Senior Vice President, Technology and Manufacturing, succeeding me as chairman, and George Campbell continuing to provide inspired leadership as president, I know that NACME is well positioned to remain a vital and valuable force in educating tomorrow's engineers. With your generous support and your ongoing partnership, we can together develop the outstanding young talent that must populate our future.

We began this year by commemorating NACME's 1996 Presidential Award for Excellence. The many friends and supporters who participated heard the President's Science Advisor, Jack Gibbons, deliver a compelling tribute to NACME's work. As we celebrated our accomplishments, however, we also acknowledged the genuine crisis we face, epitomized by the decline of 1,576 African American, Latino and American Indian first-year engineering students in 1996-97, a 10.4 percent drop since the 1992-93 peak.

NACME's response exemplified our commitment. Our board of directors' historic resolution in *The Wall Street Journal* confronted the well-organized, well-funded movement to suppress equal opportunity programs. Distributed widely through other media as well, the resolution boldly reaffirmed the dedication of business and academic leadership to NACME's mission.

Our principal dissemination vehicle, the NACME Forum, now held in the fall, included a demanding workshop for NACME Scholars and an extensive job fair in partnership with Westech ExpoCorp. The wealth of NACME research results reported at the 1997 Forum and published in a recent NACME monograph, *Engineering and Affirmative Action: Crisis in the Making*, revealed the potential impact of the recent adverse climate.

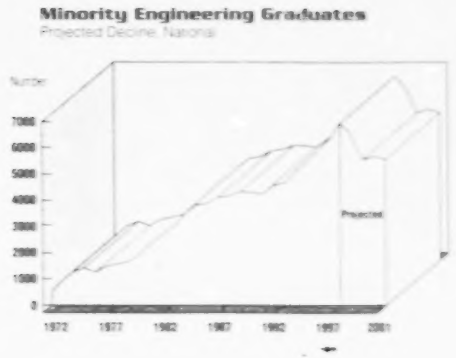
More optimistically, our *Math is Power* campaign soared in 1997, yielding the second highest performance in cable TV placement among the 42 public service campaigns supported by the Ad Council. NACME's $1.5 million investment over two years has leveraged $50 million in donated advertising. And our scholarship programs, providing academic enrichment, professional development and financial support for 1,100 students at 85 universities, continue to produce outstanding engineers. In our core programs, the retention rate is 85 percent, and the mean grade point average is 3.3. *Impact*, a new initiative this year, provided emergency support for 200 high-achieving engineering students at risk of dropping out for financial reasons.

George Campbell Jr., Ph.D.
President and CEO
NACME, Inc.

While expanding revenues to meet the growing need remains a major challenge in today's philanthropic environment, contributions in 1997 were the highest ever. Under the Board Development Committee's leadership, support for the cutting edge *Vanguard Program* blossomed, new partnerships materialized and we established a comprehensive strategy for future growth.

Among our goals for 1998 is a Summit on the 21st Century Work Force, planned in collaboration with the National Academy of Engineering, to examine the persistent underutilization of America's fastest growing population at a time when the need for engineers has never been greater. The stakes are high. At risk is the U.S. technological infrastructure necessary to maintain our global economic leadership and the standard of living not only for minorities, but for all Americans.

Research and Policy

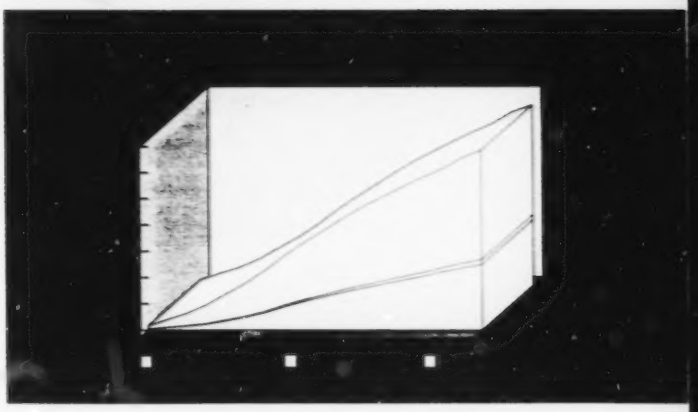


"The information provided by NACME's research department helps us make critical recruiting decisions. For example, the freshman enrollment data NACME developed for us this year let us focus our efforts strategically, a real asset to Mobil."

Sylvia F. Tayor
Manager of Recruiting
Mobil Corporation

- Placed "Reaffirming Affirmative Action," a historic resolution of the NACME Board of Directors as a full page ad in *The Wall Street Journal*.
- Published "Engineering and Affirmative Action: Crisis in the Making," a special edition of the *NACME Research Letter* by NACME President and CEO, Dr. George Campbell Jr. Based on his compelling keynote address at NACME's FORUM '97, it examines the political context of the anti-affirmative action movement and the educational inequities that continue to warrant a proactive policy response.
- Produced "Patterns in the Production of Minority Engineers 1994-96," *NACME Research Letter*, Vol. 7, No.1, a comparative analysis of the achievement of colleges and universities in producing minority graduates.
- Initiated an assessment of the sources, scope and quality of longitudinal and cross-sectional data kept by colleges and universities on individual student progress in engineering. Supported by the National Science Foundation, the study is designed to reveal best and common practices as a baseline for a national retention study.
- Provided analyses of data and public policies on engineering and science education through testimony, briefings, counsel and advice to state legislatures, key congressional offices, the Office of Science and Technology Policy and other government agencies.
- Developed almost 200 customized reports requested by corporations, universities, and government agencies involved in science and technology policy or education.
- Completed a comprehensive analysis of the sudent internship and mentoring experience in NACME's Corporate Scholars Program. The results, to be published as a *NACME Research Letter*, shed light on best practices in nurturing the next generation of engineers.

Scholarship Programs



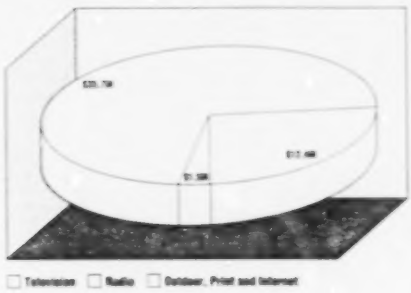
"Our clients look to Andersen Consulting to bring the best minds and ideas to achieving far-reaching change for their organizations. By partnering with NACME, we tap into some of the best engineering talent available. We're proud of our relationship with NACME."

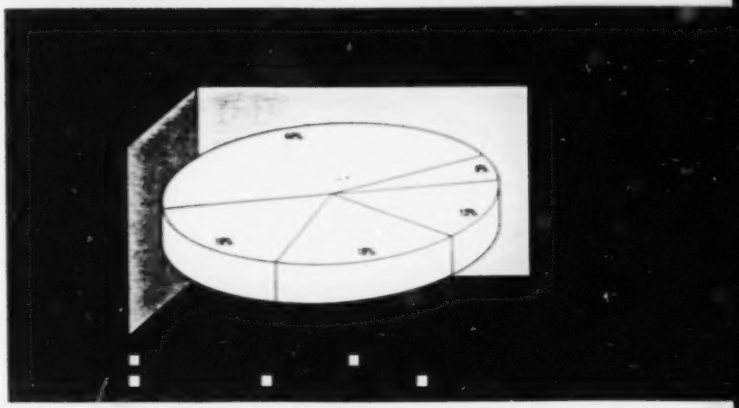
- Provided scholarships, along with accompanying academic support and professional development, for 1,100 minority students at 65 universities through the Corporate Scholars Program, Engineering Vanguard Program, TechForce PreEngineering Prize, Impact Program, Incentive Grants Program, endowed scholarships and NACME Fellows programs.
- Achieved outstanding results with the Corporate Scholars Program, which now serves 180 Scholars and 30 participating companies. Retention of students is 83 percent – greatly exceeding the national average of 36 percent for minority engineering students – and academic performance is exceptional, with scholars maintaining an average GPA of 3.3.
- Supported 300 high school students and 70 college scholars through the Engineering Vanguard Program. Now in its fifth year, with scholars at Rice, Lehigh, Drexel and Temple Universities, Vanguard expands the talent pool through highly effective alternative assessment, intense academic development, full scholarships, and an enhanced university environment. The program has not lost a single scholar and a majority of students achieved GPAs above 3.0. Five additional universities are set for 1998.
- Initiated the NACME Impact Program, which provides emergency scholarship support for students at risk of dropping out because of acute financial difficulties. Reflecting deep demand, Impact already serves 200 students.
- Supported two companies and 47 scholars through NACME's Scholarship Management Service.
- Developed strategies to assist universities in maintaining their commitment to diversity and continued financial support of minority students within the emerging legal framework.

Education Programs and Training

Information Dissemination

***Math Is Power*, Donated Media Support**
1996-97 Total: $49.6 Million





"I saw your ad on "Algebra" today for the first time. It is outstanding. You make something an "in" item, and suddenly all the kids want it. Great idea!"

"The information I get at the NACME Forum saves me both consulting fees and research time. It's extremely valuable and it's not available anywhere else."

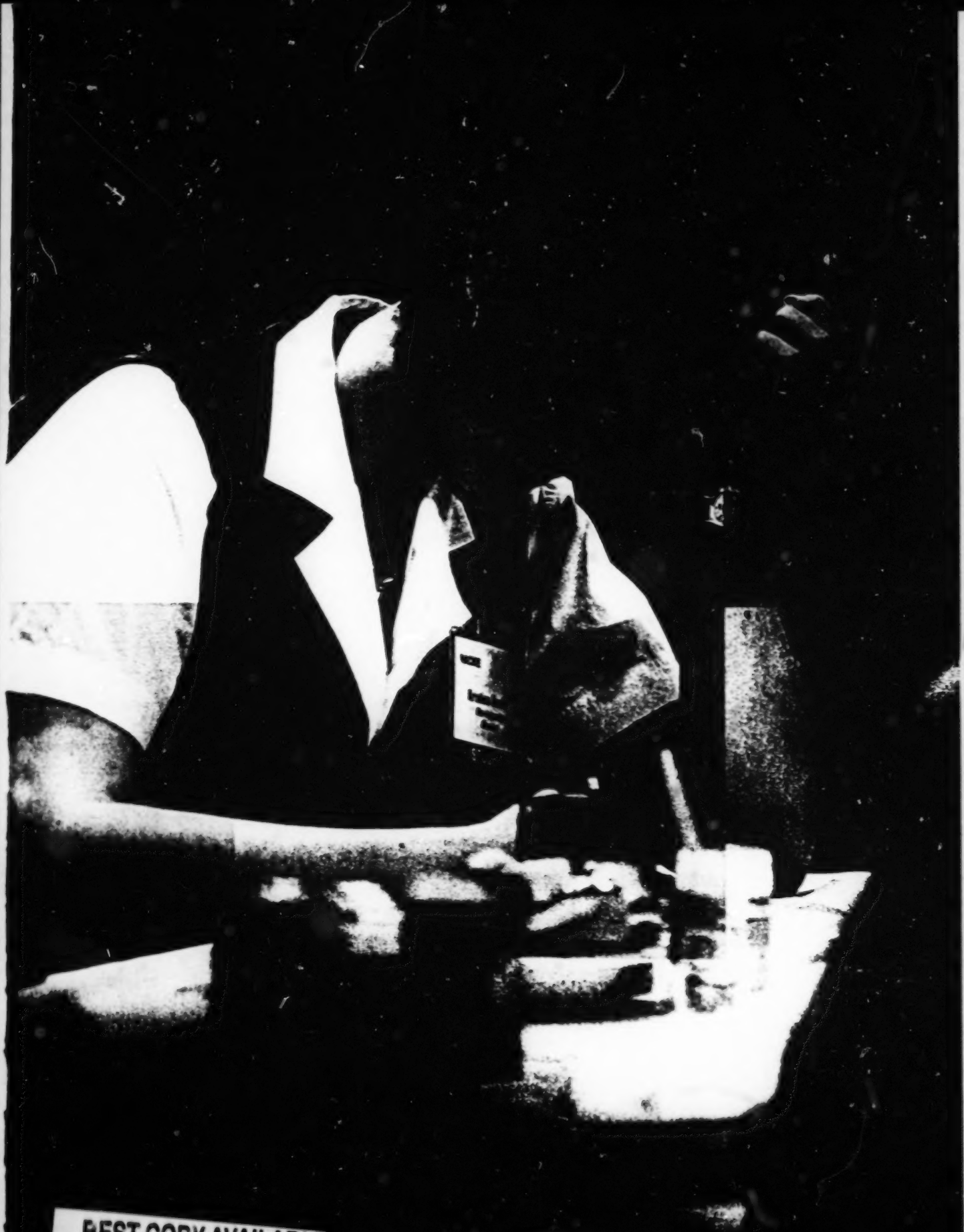
Precollege

- Implemented Phase II of the *Math Is Power* campaign, which urges students and parents to "demand" high quality math and science education. Developed new public service ads (PSAs) for TV, radio, print, outdoor and Internet distribution. Achieved excellent media placements, bringing value of donated advertising to $49.6 million. *Math Is Power* is now second among the Ad Council's 40 campaigns in cable TV and far exceeds Ad Council averages in quality of placements.
- Fielded an average of 700 calls per week to 1-800-97-NACME, with spikes over 900, in response to PSAs. Sent more than 47,000 *Math Is Power* packets to families and teachers.
- Conducted media outreach and issues briefings for key education policy-makers in support of the *Math Is Power* campaign in several cities.

University

- Conducted the NACME Diversity Seminars at Florida International University, Northwestern University and Illinois Institute of Technology, while introducing the NACME Diversity Workshops, a set of selected seminars offered at the NACME training facility to individuals, faculty, program directors, administrators, recruiters and human resources personnel.
- Developed a new Diversity Climate Assessment Instrument for engineering colleges to identify issues and provide quantitative measures regarding the environment for diversity.
- Maintained our partnership with GEM to provide articulation between NACME's Corporate Scholars Program and the GEM Graduate Fellowship Program. The collaboration allows donor companies to continue their relationship with CSP Scholars who pursue advanced degrees.

- Convened FORUM '97, NACME's three-day annual conference, in Seattle, Washington. Held in our new fall time frame, FORUM '97 included a national high-tech career fair hosted in partnership with Westech ExpoCorp. More than 70 highly satisfied companies participated. Also attending were the NACME Corporate and Vanguard Scholars, whose annual Student Leadership Training is now conducted at the NACME Forum.
- Launched a comprehensive initiative to develop a NACME Alumni Association. Held our first regional Alumni Reception and established direct mail outreach to inform NACME graduates of current issues in education policy, university access and work force development. Using data from the NACME alumni, developed a baseline for a comprehensive study of the comparative experience of minority engineers in American industry.
- Conducted an aggressive media relations campaign, with print placements reaching more than 20 million households.
- Continued regular Commentary series on Nightly Business Report, a national, daily PBS television program with more than one million viewers per segment.
- Made guest appearances on local and national television and radio programs, e.g., Best Talk, WPIX-TV, New York, and Dialogue 101, WCBS Radio.
- Provided direct career counseling, guidance and educational materials to 20,000 precollege students.
- Hosted an average of 250,000 visitors per week on the NACME website, www.nacme.org, with donated facilities from IBM.



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"Anti-affirmative action initiatives violate the equal protection clause of the constitution because they unconstitutionally single out minorities and women to be treated differently from other similarly situated classes of individuals."

Reaffirming Affirmative Action

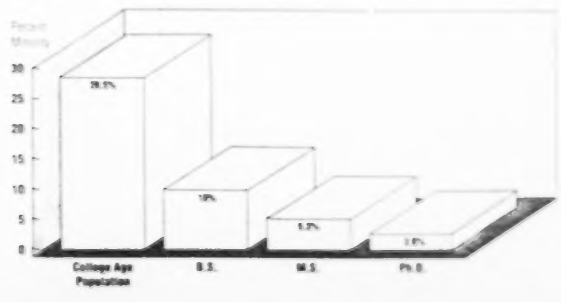
Engineering has made enormous progress. In the 23 years since NACME's founding, the annual number of minority graduates has grown more than 350 percent, and the 6,422 African Americans, Latinos and American Indians who earned their engineering degrees this year marked a record high. But the growth of the past quarter century is due largely to well-designed, proactive policies that eliminate discrimination – both conscious and inadvertent – and that promote equal opportunities. Now, with minorities at 28.5 percent of the college-age population and still just 10 percent of our BSE graduates and 2.8 percent of the doctorates, an aggressive, nationwide assault on affirmative action threatens to dismantle all we've achieved. In 1997, NACME struck back.

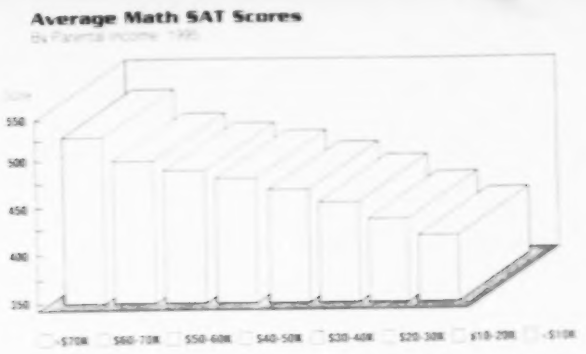
Taking a strong leadership position, the NACME Board of Directors – senior executives of America's preeminent corporations and presidents of top technology-intensive universities – reaffirmed its commitment to affirmative action, signing a full page ad in *The Wall Street Journal*. With challenges to affirmative action casting widespread doubt upon the legitimacy of programs that target minorities – particularly in higher education – the board's choice of the *Journal* was a strategic decision to reach the broadest possible cross-section of business and opinion leaders. Its message, an unequivocal statement that in a field as crucial to wealth creation and competitiveness as engineering, developing the full potential of the population "is critical not only to our nation's economic growth, but to our political stability, our social well-being and our global leadership responsibilities."

We gave the ad far-reaching distribution. We posted it on the NACME World Wide Web site and sent it to engineering educators, corporate supporters, civil rights leaders, political figures and newspapers and magazines, nationwide. Our board shared it with employees and suppliers; they posted it in operating facilities, and they distributed it at conferences and conventions.

As the year progressed, and NACME Research cataloged the early impact of the *Hopwood* case decided by the U.S. Court of Appeals for the Fifth Circuit and of California's Proposition 209, we turned our attention to the state of Washington, where we would host our annual Forum. Although the area boasts a burgeoning high-tech corridor, generating jobs at a pace that can't possibly be matched by the output of local institutions, the number of minority graduates from the region's colleges and universities is still well below the national average. Yet, even here, where opportunity abounds, affirmative action is under aggressive, coordinated attack. As we planned FORUM '97, the so-called Washington Civil Rights Initiative was gathering signatures to place a voter resolution on the ballot that would prohibit ethnic considerations in university admissions, contracting and hiring. The Center for Individual Rights, the same group that brought suit in the name of Cheryl Hopwood, was supporting a similar case against the law school at the University of Washington, Seattle. NACME structured

Minority Engineering Graduates
National, 1997





FORUM '97 to respond. Our goal was to give universities, precollege educators and the recruiting community the tools and techniques to maintain diversity in the changing legal environment.

FORUM '97 workshops presented new strategies for recruiting and providing scholarships without relying wholly on ethnic/racial criteria. We delved into the concept of merit, and the predictive value of alternative assessment in college admissions and corporate hiring. And we explored repositioning the precollege agenda with local policymakers to assure unbroken support.

In his FORUM '97 keynote address, Dr. George Campbell Jr., NACME's president and CEO, presented a compelling analysis of the impact that affirmative action has had on growth in access to engineering careers, the likely results if policies to promote equity should cease to exist, and the organizations behind the nationwide assault. Published as a special edition of the *NACME Research Letter*, "Engineering and Affirmative Action: Crisis in the Making" offers advocates and the policy community the hard data with which to mount an equally aggressive response. Our intent, as the monograph notes, "... is to take back the ownership of civil rights policy and its legitimate goals – neither preferential treatment nor pretense of color blindness, but genuine equal opportunity through proactive, affirmative, action."

Promoting Access

While politics pushes colleges and universities to rely increasingly on one-dimensional, numerical test scores, the data remain unequivocal. The Scholastic Assessment Tests (SATs) are more reflective of family income than of student academic potential; more highly correlated with parental education than with any outcome measure of student success. With SATs, then, posing a formidable barrier to the poorest segments of the population, NACME's *Engineering Vanguard Program* continued to build evidence, not only of the effectiveness of NACME's alternative assessment process, but also of how much deeper the minority talent pool runs than is measured by traditional indicators.

Rather than rely on tests that, at best, measure past educational opportunity, *Vanguard* increases the number of minority students who pursue engineering by providing new kinds of opportunities to demonstrate engineering promise. Targeting high schools where students are bypassed by traditional college recruiting activities, NACME assesses content knowledge, mathematics problem-solving behaviors and critical thinking skills by engaging students in a comprehensive, performance-based process. Replicating the experience of college-level instruction, NACME mathematics faculty teach students new concepts and invite them to solve a set of complex problems, working in collaborative teams. Potential engineering students are then evaluated on their ideas, creativity and approaches to solving unfamiliar problems, exactly the competencies that make for successful engineers.

Through this highly interactive assessment process, NACME assembles a cohort of *Vanguard* scholars who might otherwise be inadmissible to participating institutions. To bridge the gap between the coursework that is available in inner-city schools and the core content that students are presumed to know on day one in an engineering institution, all *Vanguard* students participate in rigorous, intensely focused academic workshops during their senior year in high school. They're steeped in the culture of mathematics and science, taught to make presentations and exposed to leadership and diversity training. By the program's end, students coalesce into high functioning academic teams. And as teams, NACME *Vanguard* scholars matriculate in engineering school – currently Drexel, Lehigh, Rice and Temple Universities – with scholarships covering full tuition and housing. Five additional universities are in the wings and will join the program beginning in 1998-99.

from the perspective of higher education, you just can't have a first-rate university without diversity. First, diversity is essential to academic excellence and second, diversity is essential to social justice... Diversity is a critically important element in building a rich intellectual environment."

"After attending FORUM '97 and meeting the Vanguard and Corporate Scholars, I am convinced that only through partnerships with organizations like NACME can we continue to strive toward parity in engineering. It is an honor for the University of Massachusetts, Amherst to work with NACME."

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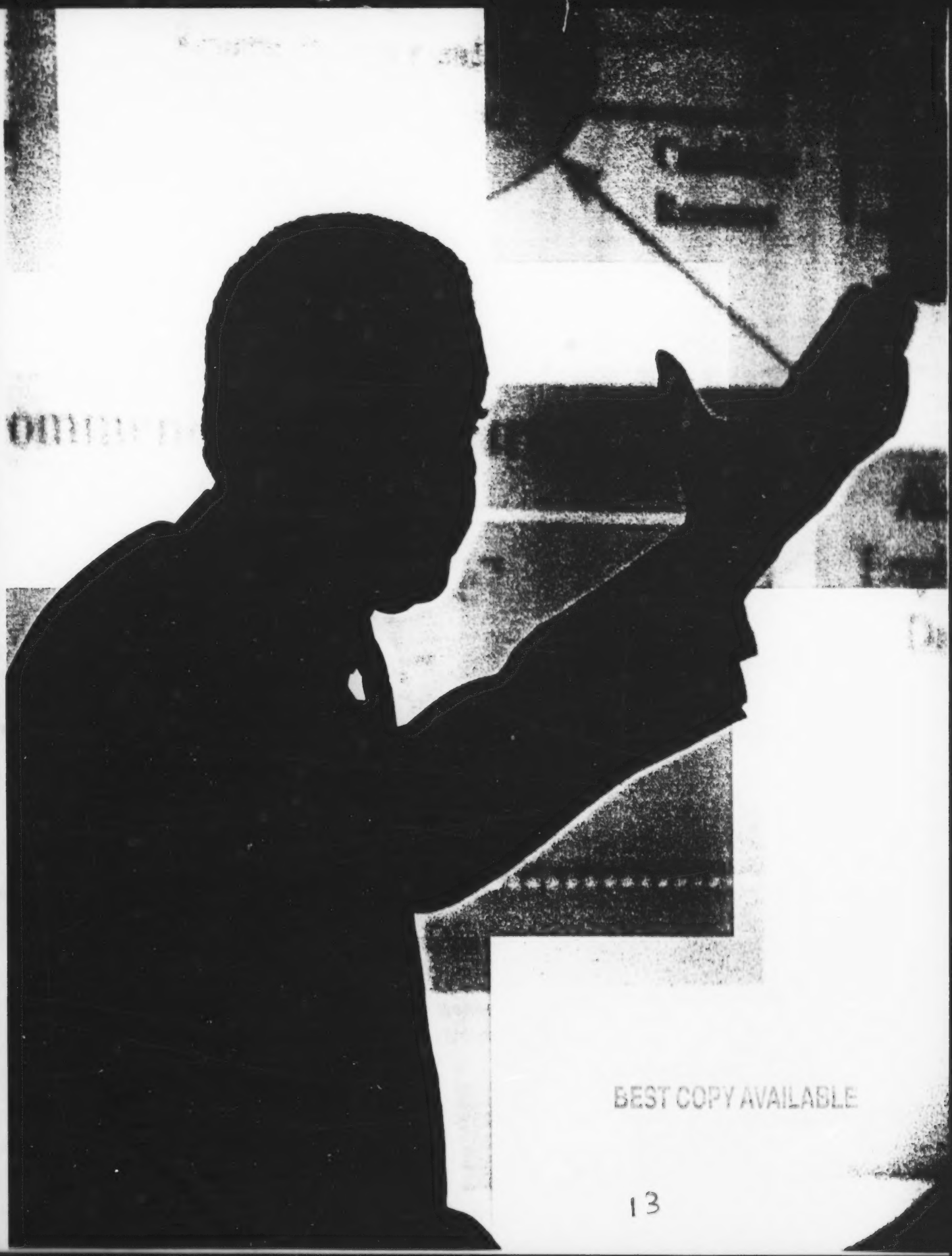

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The results have been transformational. Although the ultimate winners are NACME's *Vanguard* Scholars and the work force that awaits them, the impact that *Vanguard* has had on participating institutions is profound.

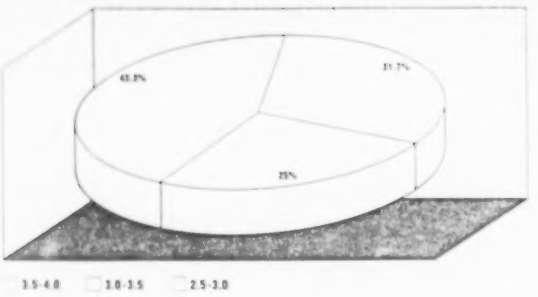
In the 10 inner-city high schools in Houston, Philadelphia and New York City, from which *Vanguard* currently draws its candidates, math and science education will never be the same. With more than 300 students who have gone through the NACME assessments – a process they say "required deep thought, teamwork and communication" – the demand for instructional approaches that involve students in the construction of knowledge comes from both students and teachers. NACME staff is responding by adapting the case study technique used in our workshops to the high school classroom. These real-life engineering scenarios allow students to move from computational to analytical problem solving as they discover mathematics-based solutions to culturally relevant challenges.

At the *Vanguard* universities, participating institutions benefit not only from the rapid infusion of a richly diverse group of students, but from students who are uniquely prepared to succeed. Although, nationally, fewer than 36 percent of the minority freshmen who enter engineering school graduate with an engineering degree, student persistence in *Vanguard* stands at 100 percent.

"For me, the biggest benefit of the NACME Forum and Leadership Training was the chance to meet and become better friends with the other NACME Scholars. It was a great place to network with future employers, and also allowed me to build relationships with other future leaders of the engineering field."

Marcus Christopher Davis
NACME Scholar
Texas A&M University

Corporate Scholars Program
GPA Distribution: Graduates



The reason? While many colleges focus on developing retention strategies for those enrolled, few recognize that the selection process they use is wholly inadequate to determine future student performance and progress toward a degree. The *Engineering Vanguard Program* has exploded traditional assumptions about student potential and developed tools that reach well beyond SAT in predicting achievement. Equally important, *Vanguard* has introduced techniques that quickly develop academic competency, allowing nontraditional students to excel in the engineering environment.

Educating Technical Leaders

Although building access is critical, sheer numbers are not enough. With engineering clearly identified as a path to upward mobility in the nation's corporations, one of the most important goals of creating access to engineering careers has been to assure diversity in R&D, in management, and, ultimately, in the boardroom itself. NACME's philosophy is that technical leaders are not born, they're educated. And there is no program in the country that has been more successful in nurturing outstanding academic achievement and high performance among new engineers than NACME's Corporate Scholars Program (CSP).

With 180 CSP scholars in the pipeline and 110 CSP graduates in the workplace, the Corporate Scholars Program builds engineering leadership by offering extraordinary opportunity. In addition to significant need-based financial aid – $12,000 to $20,000, depending upon need and academic accomplishment – CSP scholars receive professional development, academic enrichment, a NACME-trained industry mentor and a structured internship experience designed to produce a highly skilled graduate.

By all conventional measures of performance, the program has been a standout. Recruited in the latter half of their freshman year, CSP candidates require only a 2.5 GPA to be eligible to participate. Yet, retention of our scholars stands at 83 percent – far exceeding the 36 percent average for minority engineering students nationally – and their average GPA is 3.3. After earning their BSE degrees, 49 percent are employed by NACME companies and a remarkable 34 percent go on to full-time graduate study.

But NACME research goes beyond the usual benchmarks to assure that CSP meets the needs of both students and sponsors. Each year, we conduct a formal evaluation to assess the quality and impact of mentoring and internship experiences, and provide detailed, comparative feedback to the companies who support our scholars. Almost unanimously, company supervisors see the program as a valuable asset in developing potential employees. CSP scholars are steeped in their corporate culture, educated in their engineering environment and poised to make meaningful contributions early in their engineering careers. More than 98 percent of company supervisors surveyed reported positive experiences with their CSP interns and over 96 percent would welcome their return. According to students, the feeling is mutual. The overwhelming majority said their internship and training experiences improved their engineering skills, would help shape their careers and that they were interested in returning to their host companies. With CSP scholars now at 30 companies, the program's potential for building careers at the frontiers of technology is enormous.

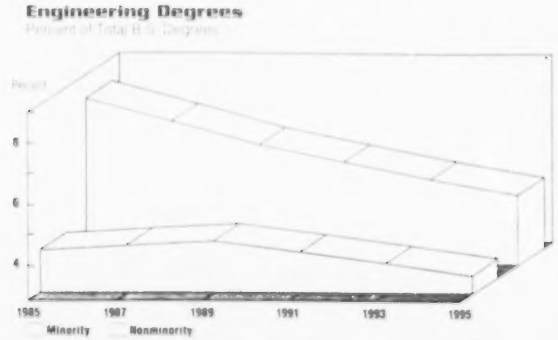
This year, to broaden the experiences of our scholars as we prepare them for the work force, NACME moved its Leadership Training Seminars to coincide with our annual Forum. For the first time, we united *Vanguard* and CSP scholars with the NACME Forum attendees, inviting a new level of interaction with the university and corporate communities. At the same time, we established a partnership with Westech ExpoCorp, one of the country's leading career fair producers, to host a major, high-tech career expo in conjunction with each year's NACME Forum. The combination was electric. Drawing more than 70 leading technology-intensive companies to the Seattle Convention Center, along with close to 2,000 job-seekers, FORUM '97 brought together students, faculty, administrators, program directors and the full range of human resources professionals, closing the engineering employment circle, with opportunity at its center.

Transforming the University

The data are unequivocal. Despite explosive growth in engineering employment and starting salaries approaching $40,000 for BSE graduates – exceeding offers to business majors by 40 percent and rivaling pay for new lawyers – the number of engineering graduates continues a long steady decline. And, while the number of minority graduates bucked the trend to hit a record high, recent figures indicate that the proportion of minority degree earners who choose engineering is slipping. Even more ominous, the enrollment of minority freshmen has declined 10 percent since the peak in 1992, portending imminent drops in graduations.

This year, NACME took action on two fronts. First, NACME Research undertook an analysis of institutional achievement in the education of minority engineers. Our objective was not just to recognize the contributions of top-producing colleges and universities, but to identify specifically those engineering institutions, groups of institutions and areas of the country where increased commitment, revised strategies and greater output are crucial. At the same time, we expanded the NACME Diversity Seminars to offer a venue in which faculty and students alike can explore the issues that may act as impediments to academic and career success.

Published in May, 1997 in the *NACME Research Letter*, "Patterns in the Production of Minority Engineers, 1994-95" includes comparative institutional rankings by number of minority graduates and an



"NACME has given me many of the skills I'll need for my engineering career. I've met professionals who gave me a clearer picture of what I might do with my career. I've learned to make presentations and to work on a team. But the best part of my NACME scholarship is the support I get in achieving my goals."

"I strongly encourage all engineering institutions to commit themselves to creating a better environment, one in which all students can succeed. Once that commitment is made, the next and much easier step is made in partnership with NACME."

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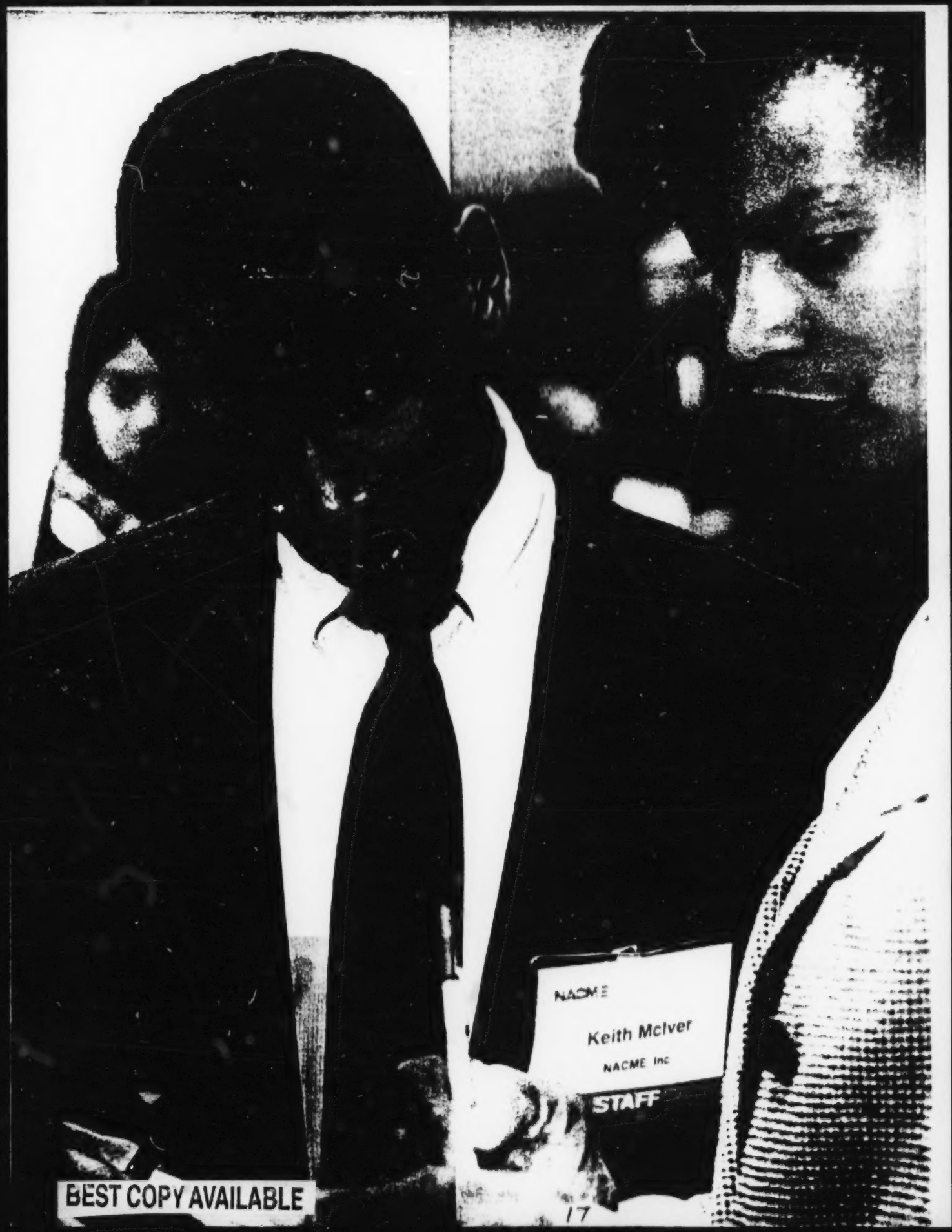

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overview of trends in distribution that make continued growth in number so tenuous. Among our findings:

- Ten percent of all engineering institutions (31 schools) are responsible for almost half the minority graduates (49.7 percent), while half of all institutions produced 8 or fewer minority graduates and 38 schools produced none at all.
- The nation's 31 largest producers of bachelor's degrees in engineering generated 40 percent of the nonminority BSE graduates, but only 28 percent of the minority BSE graduates.
- Receiving the bulk of federal taxpayer monies for research, the nation's research institutes produced the majority of nonminority BSE graduates (57.2 percent), but a substantially lower percentage of minority graduates (47.5 percent).
- Forty states did not produce minority engineering graduates at even 50 percent of parity with their resident minority populations.

At a time of reduced interest in engineering careers, diminishing availability of scholarship dollars and a pullback of affirmative action policies, institutions must be held accountable for educating student bodies more reflective of the nation's demographics. "Answering the call to equity," we conclude, "will mean more aggressive recruiting [including alternative assessment], establishing a more nurturing campus environment, guaranteeing adequate financial aid, and providing early exposure for all students to research and development careers."

Perhaps most immediately, given the existing decline in the number of minority freshmen, we must assure that engineering institutions achieve a greater yield from the talented young men and women already enrolled. With the retention of minority engineering students intractable at 36 percent, just over half that of nonminority students, cultivating a campus climate that values and develops the creative potential of each individual is essential for institutional success. But the benefits are much greater than student persistence. Institutions where students work in multicultural and multidisciplinary teams and where faculty is skilled at facilitating cross-ethnic, cross-gender and cross-cultural collaboration will attract and produce students better able to lead in an increasingly technical and global environment.

The NACME Diversity Seminars – which are held on the university campus – and the NACME Diversity Workshops, just introduced for individual participants, use a variety of instructional tools to assist participants in reflecting on where they are in their own diversity journey and what each can do to advance their institution's diversity goals. This year, we developed an Institutional Climate Assessment Instrument used to establish a baseline for the custom design of each set of seminars – that offers powerful insights for improving the learning environment for students, faculty and staff.

For the 21st century university, the challenge of valuing diversity is serious business, critical to the confluence of distinctive perspectives, to the dialog between people of different world views, and, ultimately, to the quality of intellectual discourse on campus.

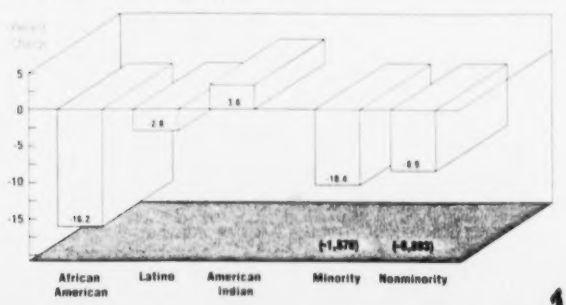
"Thank you for encouraging our teenagers to do their best in school and not let difficult subjects intimidate them."

"It's nice to have some useful PSAs that aren't silly, politically correct garbage. I'll air them."

Empowering Families

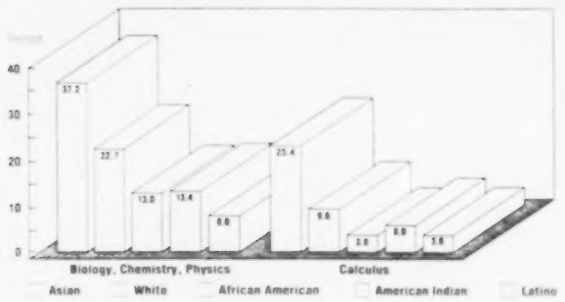
If America's showing in the Olympics were as poor as our performance on the Third International Mathematics and Science Study, the national outcry would be deafening. Yet with engineering employment up 20 percent in the past four years and a reported 200,000 unfilled jobs in information technologies, our K-12

Decline in Engineering Enrollment



HS Course Completion

Percent of High School Graduates



education system denies the vast majority of workers the essential passkey to Information Age jobs. Only 15 percent of all American students nationwide – and six percent of minority students – graduate from high school with mathematics courses through precalculus and science through physics. The result? While opportunity abounds, U.S. companies scramble for foreign talent.

Even worse, with no national standards to require the courses our competitor nations provide, NACME Research indicates that over half of all students plan to drop math and science at their first opportunity and that they're making that decision based on inadequate information.

- Most parents (93 percent) are never informed about course-taking options and only one-third have or plan to participate in the decision.
- Two out of every five students say that discouragement from guidance counselors and teachers is an important reason their peers do not pursue math studies.
- There is an enormous disconnect between the careers in which students express interest and the courses they are planning to take.

Challenged to empower students and their parents to grab hold of the future by taking control of their education, NACME developed *Math Is Power*, a national public service advertising (PSA) campaign that harnesses the pervasive reach of the media to contact families in their homes, in their cars, waiting at the bus stop or shopping at the mall. Launched in June 1995 in partnership with The Advertising Council, the campaign supports ongoing education reform by creating demand-side pressure on schools and school systems for math and science education for *all* students.

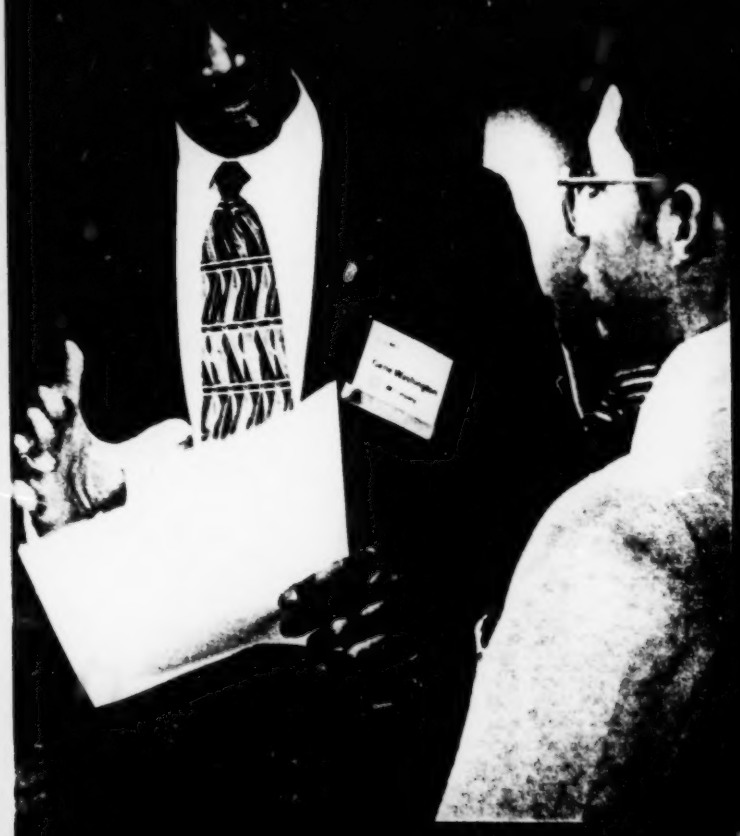
This year, working with volunteer agency Bozell Worldwide, the 11th largest advertising agency in the United States, we released Phase II of *Math Is Power*, shifting strategies from informing students of the importance of math to empowering them to "demand it."

Produced with an investment of approximately $1.5 million to date, *Math Is Power* has leveraged an estimated $49.6 million in donated advertising placements: $35.7 million in television, $12.4 million in radio, $1.5 million in outdoor, print and Internet. To expand upon the brief sound bite offered by a mass media message, the campaign includes a toll-free number (1-800-97-NACME) through which we provide callers with a *Math Is Power* kit, stuffed with information for students and parents.

According to Broadcast Verification Systems, which monitors a sample of 549 commercial TV stations, broadcast and cable networks, along with 619 radio stations, on *sampled* media alone, *Math Is Power* has been aired 32,903 times on television and 4,198 times on radio. Newspaper and magazine placements have now reached 26 million readers. 832 *Math Is Power* bus shelter posters have been displayed and 500 shopping mall posters placed in 31 states. In the newest medium for PSAs, donated Internet banner postings for *Math Is Power* already total over $85,000 in value and NACME receives e-mail comments and requests to participate daily.

Today, calls to 1-800-97-NACME average over 700 per week. They come from every state in the union, the District of Columbia, Puerto Rico, Guam and the Virgin Islands, with over 40 percent from the 10 states with the highest percent minority populations. We've distributed almost 70,000 information kits and built linkages with more than 130 community-based, regional and national organizations.

In a nation of 16,000 school systems housing more than 100,000 middle and high schools, with no consensus on curriculum requirements, the enormous value of *Math Is Power* is that it *can* touch every one of our nation's communities and allow children and parents to make intelligent, informed decisions about an issue that will change their lives. ■



"The NACME Forum was excellent for us on three counts. The program was super. We visited with many potential engineering and computer science candidates at the Career Fair, and even more important, we had the opportunity to spend some quality time with many of our NACME scholarship students."

"As NACME alumni, one of our responsibilities in the workplace must be a genuine embrace of diversity, of learning from and working with each other in order to get our jobs accomplished. It's particularly important in this environment of constrained resources, when every team member's contribution is needed."

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Statement of Financial Position

For the year ended August 31 1997 (with comparative data for 1996) NACME Inc.
(not-for-profit corporation)

	Totals	
	1997	1996
Assets		
Cash (including interest from interest-bearing accounts of $315,316 in 1997 and $1,462,512 in 1996)	**$ 939,406**	$ 1,634,181
Short-term investments	**4,494,751**	4,112,048
Pledges receivable	**821,250**	698,599
Interest and other receivables	**50,172**	63,922
Prepaid expenses	**20,581**	38,946
Net capital assets*	**438,581**	211,495
Security deposit**	**48,038**	30,000
Total Assets	**$ 6,812,779**	$ 6,789,191
Liabilities and Net Assets		
Liabilities		
Awards and grants payable	**$ 1,002,750**	$ 1,182,000
Accounts payable and accrued expenses	**66,709**	96,694
Deferred credit**	**76,000**	
Total Liabilities	**1,145,459**	1,278,694
Net Assets		
Unrestricted	**4,110,497**	3,808,284
Temporarily restricted	**878,923**	1,083,513
Permanently restricted	**677,900**	618,700
Total Net Assets	**5,667,320**	5,510,497
Total Liabilities and Net Assets	**$ 6,812,779**	$ 6,789,191

Statement of Activities

For the year ended August 31 1997 (with comparative data for 1996) NACME, Inc.
(not-for-profit corporation)

	Totals	
	1997	1996
Revenue:		
Public support—contributions	**$ 5,159,451**	$ 4,961,586
Revenue—investment income	**281,843**	305,519
Other income	**4,057**	79,197
Total Revenue	**$ 5,445,351**	$ 5,346,302
Expenses:		
Program Services		
Scholarship programs	**$ 2,697,971**	$ 2,502,281
Education programs and training	**1,179,607**	1,188,158
Information dissemination	**167,018**	173,642
Research	**186,306**	261,451
Total Program Services	**$ 4,230,902**	$ 4,125,532
Supporting Services		
Resource development	**$ 300,473**	$ 337,847
Management and general	**906,060**	867,820
Total Supporting Services	**1,206,533**	1,205,667
Total Expenses	**5,437,435**	5,331,199
Excess (Deficiency) of Operating Revenue over Expenses	**$ 7,916**	$ 15,103
Gains (Losses) on Investments	**$ 148,907**	$ (102,667)
Change in Net Assets	**156,823**	(87,564)
Net Assets at Beginning of Year	**5,510,497**	5,598,061
Net Assets at End of Year	**$ 5,667,320**	$ 5,510,497

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*Leasehold improvements, office furniture and equipment, at cost, less accumulated amortization and depreciation of $139,010 in 1997 and $1,054,253 in 1996.

**During 1997, NACME relocated its offices to the Empire State Building and entered into a new 15 year lease. The lease required a security deposit of $48,038. Lease commitments will be accounted for on a straight-line basis in accordance with Statement of Financial Accounting Standards (SFAS) 13, "Accounting for Leases." In addition, the lease provides NACME with rent credits of $300,000 in lieu of payments during the earlier years of the lease. These rent credits will be reflected on the Statement of Financial Position as deferred credits. The deferred credit in 1997 was $75,000.

These financial statements are a condensed version of the audited statements of the National Action Council for Minorities in Engineering, Inc. for the year ending August 31, 1997.

NACME will be pleased to provide complete copies along with all footnotes and the unqualified report of our financial auditors, upon request.

You may obtain a copy of the latest annual report filed with the N.Y. State Board of Social Welfare by writing to the Secretary, State of New York, 162 Washington Avenue, Albany, NY 12231, Attention: Charitable Registration Division.

NACME Scholarship Programs*

1996-97 Academic Year

Institution	Vanguard	Endowed	TechForce	IGP	CSP Corporate Sponsors	Total
California Institute of Technology						
California Polytechnic State University		1 Bechtel		8	2 Bechtel Licensed Matrix	11
California State Polytechnic University, Pomona				1		1
California State University, Long Beach				22	1 Rockwell	23
California State University, Northridge				10		10
California State University, Sacramento				14		14
City College of the City University of New York				5		5
Clarkson University				1	5 Ford, Hewlett Packard, Sony	6
Columbia University				3	1 Anderson	4
Cooper Union				10		10
Drexel University	2					2
Florida A&M University				1		1
Georgia Institute of Technology		1 Bechtel		23	5 Amoco, DuPont, IBM	29
GM Institute and Management Institute				5		5
Howard University			1 GE			1
Howard University				4	2 DuPont, Lucent	6
Illinois Institute of Technology				14		14
Iowa University				10	1 DuPont	11
Lehigh University	22					22
Louisiana State University					1 Hewlett Packard, Sun	1
Louisiana Technological University				1		1
Massachusetts Institute of Technology				13	6 Amoco, IBM, NYNEX	19
Miami University			1 GE			1
Michigan State University					1 Boeing, DuPont, General Electric, General Motors, Goodrich, Lucent	1
New Jersey Institute of Technology				14		14
New Mexico State University				7	1 Hewlett Packard	8
North Carolina A&T State University		1 GE Bechtel		27	3 Anderson, DuPont, Ford, General Electric, IBM, Lucent, Merck, Procter & Gamble, United Technologies	31
North Carolina State University				13	2 Hewlett Packard, General Electric	15
Northwestern University				10		10
Pennsylvania State University					4 DuPont, General Electric, Goodrich, Kodak	4
Polytechnic University				6		6
Prairie View A&M University		1 Intel	1 GE	31	1 Exxon	34
Princeton University					1 Amoco	1
Purdue University, West Lafayette		1 Hewlett	1 GE	10	3 Amoco, Anderson, General Electric	15
Rensselaer Polytechnic Institute				20	2 Lucent, Procter & Gamble	22
Rice University	18					18
Rutgers University					2 Lucent	2
San Diego State University				2		2
Southern University				18		18
Stanford University		1 Hewlett		20	1 NYNEX	22
State University of NY, Stony Brook				1		1
Stevens Institute of Technology				3	1 Lucent, Unisys	4
Tennessee State University					1 Sprint, General Electric, General Motors	1
Texas A&M University			2 GE	23	11 Amoco, Anderson, DuPont, General Electric, Lucent, Shell	36
Texas A&M University, Kingsville				12	1 Sony	13
Texas Technological University					1 Amoco, Exxon, Hewlett Packard, Lucent	2
Tuskegee University			2 GE	12	1 Lucent	14
University of Alabama, Tuscaloosa				1		1
University of California, Berkeley				19	1 Bechtel, Licensed Matrix	20
University of California, Davis				10		10
University of California, Los Angeles				22		22
University of California, San Diego				4		4
University of California, Santa Barbara				3		3
University of Cincinnati				1		1
University of Colorado, Boulder				3		3
University of Delaware				1	2	3
University of Florida, Gainesville				1		1
University of Houston					3 Amoco, Bechtel, DuPont, Lucent, Merck, Shell, Sony	3
University of Illinois, Champaign					4 Ameritech, Boeing, Ford, IBM, Lucent, Sony	4
University of Illinois, Chicago					4 Ameritech, Boeing, General Electric, General Motors	4
University of Iowa				1		1
University of Maryland, Baltimore County				1		1
University of Maryland, College Park				4	2 Amoco, Bechtel, DuPont, General Electric	6
University of Massachusetts, Amherst					1 NYNEX	1
University of Michigan, Ann Arbor					2 Ameritech, Anderson, Boeing, Ford, Merck	2
University of Missouri, Rolla					1 Amoco, Procter & Gamble	1
University of New Mexico				11		11
University of Oklahoma				1		1
University of Pennsylvania				5		5
University of Puerto Rico, Mayaguez		1 Hewlett	1 GE	112	1 Amoco, DuPont, General Electric, General Motors	114
University of South Carolina				1		1
University of South Florida				5		5
University of Southern California					1 Anderson	1
University of Tennessee, Knoxville				6		6
University of Texas, Austin				8	5 Amoco, Dow, DuPont, Ford, Hewlett Packard, Lockheed Martin, Shell	13
University of Texas, El Paso		1 GE Bechtel		12	1 General Motors, IBM, Shell	14
University of Virginia				1	3 Anderson, General Electric, Goodrich	4
University of Washington, Seattle					2 Procter & Gamble, Boeing	2
Vanderbilt University				1		1
Washington State University					1 Ford	1
Totals	**50**	**0**	**17**	**656**	**158**	**899**

*Does not include 247 students in the Impact and Scholarship Management Service programs initiated this year.
**Now Bell Atlantic.

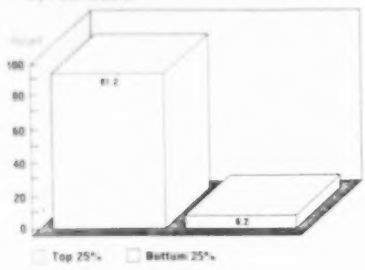
The Importance of NACME Scholarships

Financial need is a major factor in the extraordinarily high attrition of minority students in engineering.

Poor students are 13 times less likely to earn a college degree than wealthy students.

Probability of B.S. by Age 24

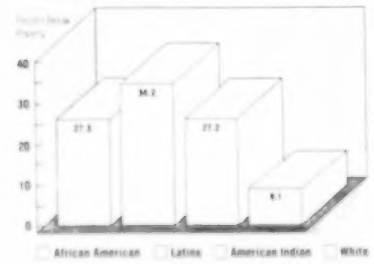
By Income Level



Minority students are disproportionately poor.

Income Distribution

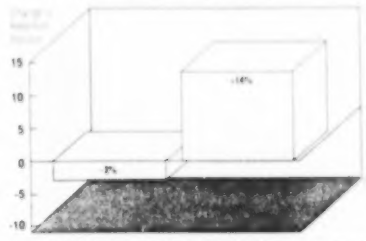
Family Poverty Levels



Additional scholarship dollars in students' financial aid packages have an enormous impact on retention. A shift of just $1,000 causes a 17 percent improvement in retention.

Loans vs. Scholarships

Impact on Retention: Low Income Students



Investments by State

State	Dollars
[illegible]	[illegible]
Total*	$2,697,971

University of Puerto Rico

Academic Year	Freshman Enrollment	Total Undergrads	Total Degrees
[illegible]	[illegible]	[illegible]	[illegible]

Fall Semester Freshman Enrollments in Engineering*

Academic Year	African Americans	Latinos	American Indians	Total Minority	Total Nonminority	Total Freshmen	Percent Minority
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Bachelor's Degrees Granted in Engineering*

Academic Year	African Americans	Latinos	American Indians	Total Minority	Total Nonminority	Total Degrees	Percent Minority
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Bachelor's Degrees in Engineering by Ethnicity and Gender*

Academic Year	African Americans Men	African Americans Women	Latinos Men	Latinos Women	American Indians Men	American Indians Women	Total Minority Men	Total Minority Women	Total Men	Total Women
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1997 NACME Donors

DuPont Company
Exxon Corporation/Exxon Education Foundation
Ford Motor Company Fund
GE Fund/General Electric Distribution and Control
IBM Corporation*
Lehigh University
National Science Foundation*

Amoco Corporation/Amoco Foundation
Andersen Consulting
The Annenberg/CPB Math and Science Project*
Drexel University
General Motors
Lucent Technologies
Rice University
Shell Oil Company/Shell Oil Company Foundation
Texaco Foundation
Xerox Corporation

22

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Bristol-Myers Squibb Foundation, Inc.
CBS Fund
Chrysler Corporation
Circuit City Foundation
Eaton Corporation
General Mills Foundation
Honeywell Foundation
Jacobs Engineering Group, Inc.
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Caterpillar Foundation
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Dresser Industries
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U.S. Department of Energy
The Walt Disney Company Foundation
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*Includes IBM funding for Math-a-thon® (donated as multi-year grant)
**Now Bell Atlantic

NACME's Individual Donors
NACME extends a special thanks to our individual donors, men and women who join the ranks of our corporate contributors in supporting NACME's work. Reflecting the commitment of our board and staff, the NACME alumni, the community of scientists, engineers and educators, and the people throughout the nation who simply believe in what we do; individual donors to NACME provide crucial support of our mission.

Contributing to NACME
You can help us to develop the next generation of scientists and engineers. NACME offers a broad range of endowed scholarships and innovative programs for individuals and philanthropic organizations to consider for funding partnerships. We provide the opportunity to establish scholarships as memorials or to honor special people or organizations, or we can arrange for you to support a single scholar from freshman enrollment through graduation. If you prefer, we will gratefully welcome your participation in our annual campaign, which sustains all NACME's ongoing activities, year after year.

The NACME Annual Campaign
Your contribution to our annual campaign will support the full range of NACME programming: the research that guides our program development, comprehensive scholarship programs, precollege and university education initiatives, and creative communications ventures designed to ensure a continuous stream of youngsters with the skills, interest and education essential to our technology-based economy.

NACME Engineering Fellows
Become a NACME Fellow and your contribution will provide a substantial scholarship for an exceptional minority student pursuing an engineering degree. NACME Fellows provide $5,000 to support one student for one year of undergraduate study. NACME Sustaining Fellows make a four-year pledge of $5,000 per year to support one student for his or her entire undergraduate engineering education.

Talk to Us
NACME welcomes discussion about what kind of contribution makes sense for you, whether you speak for a corporation, a foundation, a family or yourself. Call our vice president for resource development at 212/279-2626, extension 222 to discuss your particular interests. Visit the NACME website at www.nacme.org and click on the pink information envelope to communicate with us by e-mail. If you're ready to make a contribution now, send it to:

Office of the President
NACME, Inc.
Empire State Building
350 Fifth Avenue, Suite 2212
New York, NY 10118-2299

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